

REMARKS

This amendment is responsive to the Office Action dated April 16, 2003. Applicants have cancelled claims 2, 18 and 19, and amended claims 1, 3-5, 17, 20, 21, 23, 24, and 26-32. Claims 33-43 have been withdrawn by the Examiner as being directed to non-elected subject matter. Claims 1, 3-17 and 20-32 are currently presented for examination.

In the Office Action, the Examiner rejected claims 1-6, 8-14, 17, 20-21, and 26 under 35 U.S.C. 102(b) as being anticipated by Lewis et al. (US 4,519,065) (hereafter Lewis); rejected claim 7 under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Anderson et al. (US 4,304,806) (hereafter Anderson); rejected claims 15-16, 18-19, 22-27, and 29-30 under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Davis et al. (WO 00/48172) (hereafter Davis); rejected claim 28 under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Anderson and further in view of Kerfeld et al. (US 4,374,077) (hereafter Kerfeld); rejected claims 31-32 under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Davis and further in view of Smith et al. (US 5,739,972) (hereafter Smith).

In response, Applicants have amended the claims to clarify Applicants' claimed inventions relative to the applied references. Applicants respectfully traverse the pending rejections to the extent such rejections may be considered applicable to the amended claims.

Claim 1 has been amended to recite a data storage medium comprising a first layer comprising a substrate, a second layer including a polymer, the second layer exhibiting surface variations, and a third layer including a magnetic recording material and substantially conforming to the surface variations of the second layer. Similarly, all pending independent claims have been amended to recite similar features.

The applied references fail to disclose or suggest the features recited by Applicants' claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention. In particular, the applied references do not disclose or suggest a second layer including a polymer, the second layer exhibiting surface variations, and a third layer including a magnetic recording material and substantially conforming to the surface variations of the second layer.

In the Office Action, the Examiner recognized that Lewis does not disclose or suggest a third layer that includes a magnetic material and substantially conforms to surface variations in a

second layer. See paragraph 27 of the Office Action. However, the Examiner stated that Davis teaches a data storage medium that comprises a substrate, a polymer layer having surface features, and an additional layer (which could be a data storage layer) on the plastic layer. See paragraph 28 of the Office Action. The Examiner further noted that Davis discloses a magnetic layer as a suitable data storage layer. *Id.*

The Examiner then reasoned that it would have been obvious to one of ordinary skill in the art to substitute a magnetic layer as taught by Davis with the reflective layer taught by Anderson. See paragraph 28. Applicants are confused by the Examiner's reference to Anderson in this rejection because the rejection appears to be based on Lewis in view of Davis. Notwithstanding the reference to Anderson, it appears that the Examiner is arguing that it would have been obvious to substitute a magnetic layer as taught by Davis for a metallized layer, such as a reflective or conductive layer, taught by Lewis. In either case, the rejection is improper because the prior art lacks any motivation for the substitution. Quite the opposite, such a substitution would frustrate the teaching of Lewis insofar as a magnetic layer is very different and non-equivalent to the metallized layer of Lewis. For one thing, magnetic layers are generally not-reflective. Accordingly, if one substituted magnetic layers described in Davis for the metallized layer of Lewis, the optical video disks disclosed by Lewis would not be realized. Moreover, a person of ordinary skill in the art would recognize that a magnetic layer is generally not an embossable layer, as *required* by Lewis. See column 4, lines 49-50. Accordingly, provided the teachings and objectives of Lewis, a person with ordinary skill in the art would have consciously avoided the substitution proposed by the Examiner.

In paragraph 30 of the Office Action, the Examiner cited case law for the proposition that the substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. As a preliminary matter, Applicants note that *In re Best* was decided prior to the creation of the Federal Circuit and carries dubious authoritative validity. The Federal Circuit has stated on numerous occasions that motivation to combine references must be found in the prior art. See *Interconnect Planning Corp. v. Feil*, 227 USPQ 543 (CAFC 1985); see also *In re Fine*, 5 USPQ2d 1596, 1598 (CAFC 1988); see also *In re Gorman*, 18 USPQ 2d 1885, 1888 (CAFC 1991); see also *Al-Site Corp. v. VSI International, Inc.*, 50 USPQ2d 1161, 1171 (CAFC 1999).

In any case, even under the case law cited by the Examiner, the current rejections are improper because a layer that includes a magnetic recording material is not equivalent to a reflective layer of Davis or a metallized layer of Lewis. In other words, nothing in the prior art suggests that a magnetic recording material is equivalent to a reflective layer or a metallized layer. The fact that Davis discloses both reflective layers and magnetic layers as optional layers of different media does not make such layers equivalent. Rather, the layers are disclosed in Davis as alternatives for creating different types of media.

As amended, Applicants' independent claims are directed to a medium comprising a second layer that includes surface variations and a third layer that includes a magnetic recording material and substantially conforms to the surface variations. In particular, Applicants' claims require that the second layer includes a polymer, which allows such surface variations to be created with ease. Moreover, Applicants' independent claims also recite a third layer that includes a magnetic recording material and substantially conforms to the surface variations. In this manner, the third layer can preserve any information or data encoded in the surface variations, while also allowing for magnetic recording on the medium.

None of the applied references, either alone or in combination, discloses or suggests a medium including a first layer comprising a substrate, a second layer including a polymer, the second layer exhibiting surface variations, and a third layer including a magnetic recording material and substantially conforming to the surface variations of the second layer.

Lewis discloses an article comprising a base having a thermoplastic, a radiation curable resin on one surface and an embossable electrically conductive or radiation reflective layer over the resin. The media described in Lewis are optical video disks, hence requiring the radiation reflective or conductive layer. The media described in Lewis are generally read via radiation that reflects off the electrically conductive or radiation reflective layer. Lewis appears most concerned with the embossable nature of the radiation reflective or conductive layer. For example, Lewis states at column 4, lines 49-50 that the "radiation reflective or conductive layer must be embossable."

A substitution of magnetic layers described in Davis for the radiation conductive reflective layer of Lewis, as proposed by the Examiner, would clearly frustrate the teaching of Lewis. For one thing, magnetic layers are generally not-reflective. Accordingly, if one substituted magnetic

layers described in Davis for the radiation conductive reflective layer of Lewis, the optical video disks disclosed by Lewis would simply not be realized. Moreover, a person of ordinary skill in the art would recognize that a magnetic layer is generally not an embossable layer, as *required* by Lewis. See column 4, lines 49-50. For these reasons, a person with ordinary skill in the art at the time of the invention would not have substituted magnetic layers described in Davis for the radiation conductive or reflective layer of Lewis. The Examiner appears to be using Applicants' disclosure as a blueprint, in an attempt to reconstruct the claimed invention from unrelated prior art references, which is improper.

Neither Davis nor Anderson provides any teaching that would have led a person with ordinary skill in the art to modify the teaching of Lewis. Davis and Anderson do not even disclose or suggest media having surface variations formed in a second layer and preserved in a third layer. See, e.g., the FIGS of Davis. In particular, neither Davis nor Anderson discloses or suggests a third layer that substantially conforms to surface variations of a second layer, much less a third layer including magnetic recording material that substantially conforms to the surface variations of the second layer. Insofar as Davis or Anderson discloses a magnetic layer, it is clear that the magnetic layer does not substantially conform to surface variations of another layer. See, e.g., the FIGS. of Davis. Moreover, substitution of a magnetic layer (as disclosed in Davis) for the radiation conductive or reflective layer of Lewis, would clearly frustrate the teaching of Lewis, as outlined above. For at least these reasons, all pending rejections should be withdrawn.

With respect to claims 3-17 and 20-32, numerous other differences exist relative to the applied references. Applicants in no way acquiesce in the Examiner's characterization of applied references relative to these claims. In the following discussion, Applicants specifically address *some* of the distinguishing features of claims 3-17 and 20-32 that are not disclosed or suggested in the Applied references.

For example, in addition to the features addressed above, claim 24 recites a fourth layer substantially conforming to the surface variations. Claim 25 further recites that the fourth layer includes a lubricating material. Independent claims 27-30 recite similar features. Such features are not disclosed or suggested in the Applied references.

In rejecting claims 24 and 25, the Examiner indicated that it would have been obvious to deposit a lubrication layer disclosed in Davis on the medium described in Lewis. Applicants are

entirely confused as to what the function the Examiner thinks a lubrication layer would serve on the medium described in Lewis. As outlined above, the medium described in Lewis is an optical video disk read via radiation. A person with ordinary skill in the art would have had no reason to deposit a lubrication layer on the medium described in Lewis. The Examiner indicated that one would have been motivated to make this combination due to the increased slipperiness/abrasion resistance of the surface. See paragraph 39. The Examiner failed, however, to indicate why a person would have been motivated to make an optical video disk, as disclosed in Lewis, slippery and abrasively resistant, considering the fact that such a disk does not physically interact with a head.

The mere fact that adding lubrication increases the slipperiness/abrasion resistance of the surface begs the question of why a person with ordinary skill in the art would have been motivated to increase the slipperiness/abrasion resistance of an optical video disk, as disclosed in Lewis. Again, the Examiner appears to be using Applicants' disclosure as a blueprint, in an attempt to reconstruct the claimed invention from prior art references that have little or nothing in common. Clearly, the Examiner has identified nothing in the applied references that would have led a person with ordinary skill in the art to add a lubrication layer to an optical video disk, as disclosed in Lewis, in order to make the optical video disk slippery and abrasively resistant.

Dependent claims 20 and 21 and independent claims 27-30 have been amended to recite a thin film stack comprising a plurality of sub-layers, including a magnetic recording material, and substantially conforming to the surface variations. Nothing in the applied references discloses or suggests these features, particularly in the context of layers that substantially conform to surface variations. The Examiner seemed to recognize that the applied references do not disclose a thin film stack comprising a plurality of sub-layers in the context of layers that substantially conform to surface variation, insofar as the Examiner indicated that the term "stack" was being construed to cover a single layer. The amendments to claims 20, 21 and 27-30 now clarify that a stack includes a plurality of sub-layers. For this additional reason, claims 20, 21 and 27-30 should now be in condition for allowance.

The Examiner's attempts to reconstruct the claimed invention from prior art references using Applicants' disclosure as a blueprint become even more apparent with the rejections of

claims 31 and 32. Claim 31 is directed to a removable hard disk unit, and claim 32 is directed to a system that includes a flying head transducer in addition to many of the features addressed above.

In rejecting claims 31 and 32, the Examiner argued that a person with ordinary skill in the art would have been motivated to modify optical video disks of Lewis with a magnetic layer disclosed in Davis. The Examiner apparently thinks that such a modification of an optical video disk disclosed in Lewis with a magnetic layer disclosed in Davis would result in a magnetic hard disk. The Examiner then argued that a person with ordinary skill in the art would have been motivated to use a magnetic transducer, as disclosed in Smith to read the "magnetic hard disk" created from combined teaching of Lewis and Davis.

These rejections are grossly inappropriate. For one thing, modification of Lewis with the teaching of Davis would not realize a magnetic hard disk. Lewis is completely unrelated to magnetic hard disks, and is instead focused on optical video disks. Moreover, as outlined above, the proposed modification of Lewis with the teaching of Davis would clearly frustrate the teaching of Lewis by substituting a magnetic layer for the embossable reflective or conductive layer that is specifically required by Lewis. Column 4, line 50. With a vast abundance of magnetic hard disks available at the time of invention, it is unclear why one of ordinary skill in the art would consider it productive to explore modifications to optical video disks for the purpose of realizing magnetic hard disks, as proposed by the Examiner. Quite the contrary, one of ordinary skill in the art would have considered such modifications proposed by the Examiner to be nonsensical.

Furthermore, the use of the magnetic transducer, as described in Smith, would further frustrate the teaching of Lewis insofar as Lewis is concerned and directed to optical video disks which are read via radiation. Magnetic transducers, in contrast, typically do not use radiation to read magnetically stored data. In short, the conclusions of obviousness advanced by the Examiner rely on an illogical plucking of features from unrelated references in unrelated fields. There is clearly a lack of motivation for the modification of Lewis with the teaching of Davis, and also a lack of motivation for the further modification of Lewis with the teaching of Smith. For example, as outlined above, such modifications would clearly frustrate the teaching of Lewis. Moreover, even assuming that the modifications would not frustrate the teaching of Lewis, it is unclear whether one of ordinary skill in the art could even obtain a magnetic hard disk via the

combined teaching of Lewis, Davis and Smith, much less a disk having surface variations in a second layer and a third layer including magnetic recording material and substantially conforming to the surface variations of the second layer. The Examiner's rejection relies on mere contrivance in view of Applicants' own disclosure.

With respect to the rejection of claim 28, which is improper for one or more of the reasons outlined above, Applicants are confused as to the Examiner's characterization of Kerfeld. In particular, Kerfeld does not disclose or suggest a flexible contact media substrate, for which the Examiner cited the reference. Instead, Kerfeld is concerned with the construction of optical disks, such as video disks, which are not contact media and do not include contact media substrates. For this additional reason, the rejection of 28 is improper and should be withdrawn.

With respect to the rejection of claim 26, Applicants traverse the Examiner's position. A flyable surface is well known in the art of hard disks and other magnetic media, and well defined in Applicants' specification. See page 1, lines 16-25. Accordingly, the limitation of claim 26 reciting that a medium surface that is flyable should be given patentable consideration as a structural limitation of the claim. Insofar as the Examiner recognizes that the applied references fail to disclose or suggest a flyable medium surface, claim 26 should clearly be allowed.

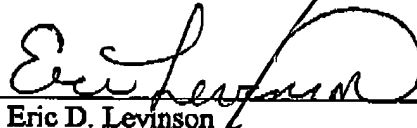
All of Applicants' independent claims recite a medium formed with surface variations that are preserved through various layers of the medium. In particular, a second layer of the medium is formed with the surface variations. As claimed, the second layer includes a polymer, which allows such surface variations to be created with ease. Applicants' independent claims also recite a third layer that includes a magnetic recording material and substantially conforms to the surface variations. In this manner, the third layer can preserve any information or data encoded in the surface variations, while also allowing for magnetic recording on the medium. In other words, the surface variations are preserved through the layers insofar as the layers substantially conform to the surface variations. A number of dependent features of Applicants' dependent claims are also not disclosed or suggested in the Applied references, as outlined above.

All claims in this application are in condition for allowance. Applicants respectfully request reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 09-0069. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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7/15/03

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